

Canberra's Main Outfall Sewer

Part of Canberra's Engineering Heritage

Operating since 1926

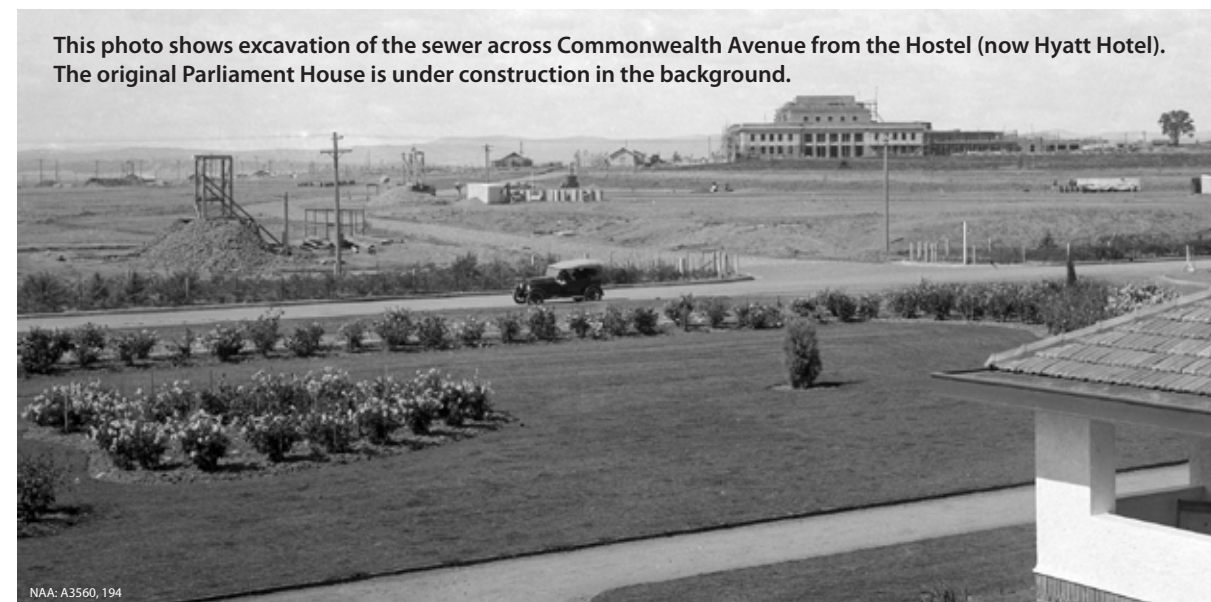
Canberra's original sewer

Canberra's first main sewer runs underground past here for about eight kilometres to the former sewage treatment works at Weston Creek (formerly called Western Creek). As with modern systems, the sewer was built to ensure health and safety of the growing population and to avoid odours and water pollution downstream.

The sewer was built in two stages. The first stage was from the edge of the proposed city limits to the planned treatment works [see map below]. The second stage followed Walter Burley Griffin's street layout and extended from the city to connect with the first stage.

A difficult start

Construction of the main outfall sewer commenced in 1915, working to a plan prepared by the Department of Home Affairs. But Griffin, who had been excluded from the design process for engineering services, argued for a series of small distributed septic systems which he claimed would lower costs, be odourless and discharge innocuous effluent into the ornamental lake system. A Royal Commission into the controversy was held during World War 1, with much debate regarding the best type of treatment plant. After further advice from the US Rockefeller Institute, the basic sewer layout proposed by the Department of Home Affairs was endorsed and parliamentary approval given for a revised treatment works at Weston Creek. This allowed excavation of the sewer to recommence in 1922. The system was completed in 1926 in time for the opening of the original Parliament House.



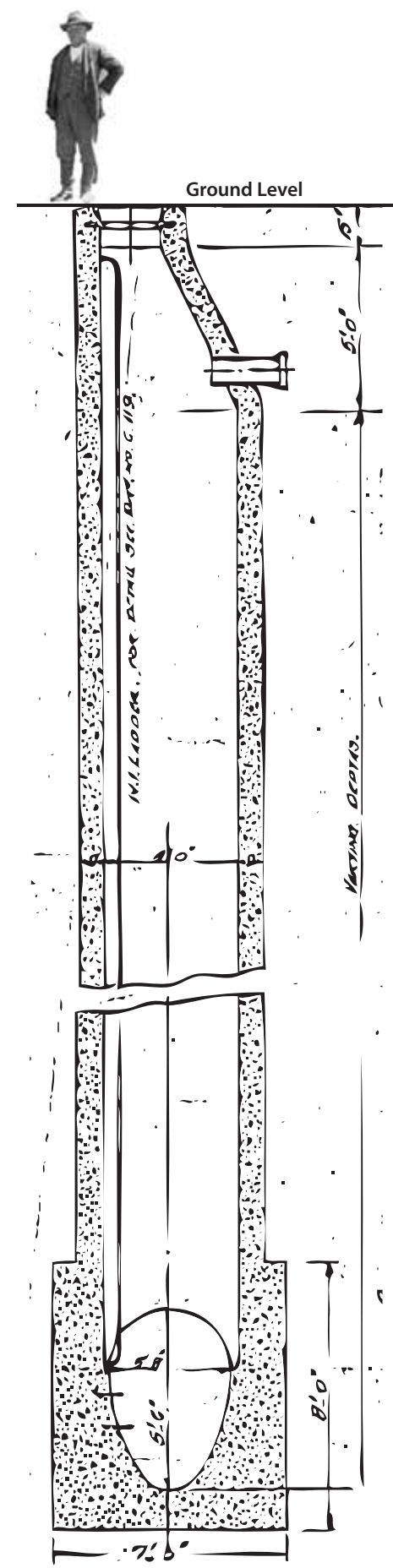
This photo shows excavation of the sewer across Commonwealth Avenue from the Hostel (now Hyatt Hotel). The original Parliament House is under construction in the background.

It's mostly below ground, out of sight

Beneath the manholes along the route are major concrete structures, as shown in this 1922 drawing. The closest manhole is across Flynn Drive between the poplar trees. Notice the egg shaped tunnel where waste flows by gravity from North and South Canberra to the treatment works.

Across the road, the tunnel is 15 metres below the surface, and is deepest where it passes 44 metres under Stirling Ridge. It consists of a concrete lined tunnel 1.68 metres high by 1.12 metres wide. It runs at a constant downward slope of 57cm/km, briefly coming to the surface as it crosses Yarralumla Creek near the Woolshed, where it takes the form of a small concrete weir.

In 1927, when Parliament transferred to Canberra, the new treatment works with trickling filters, sedimentation and activated sludge tanks had just opened at Weston Creek. This original sewer main is still in use, though Canberra now has a much larger and higher quality treatment facility at the Lower Molonglo Water Quality Control Centre in Belconnen.

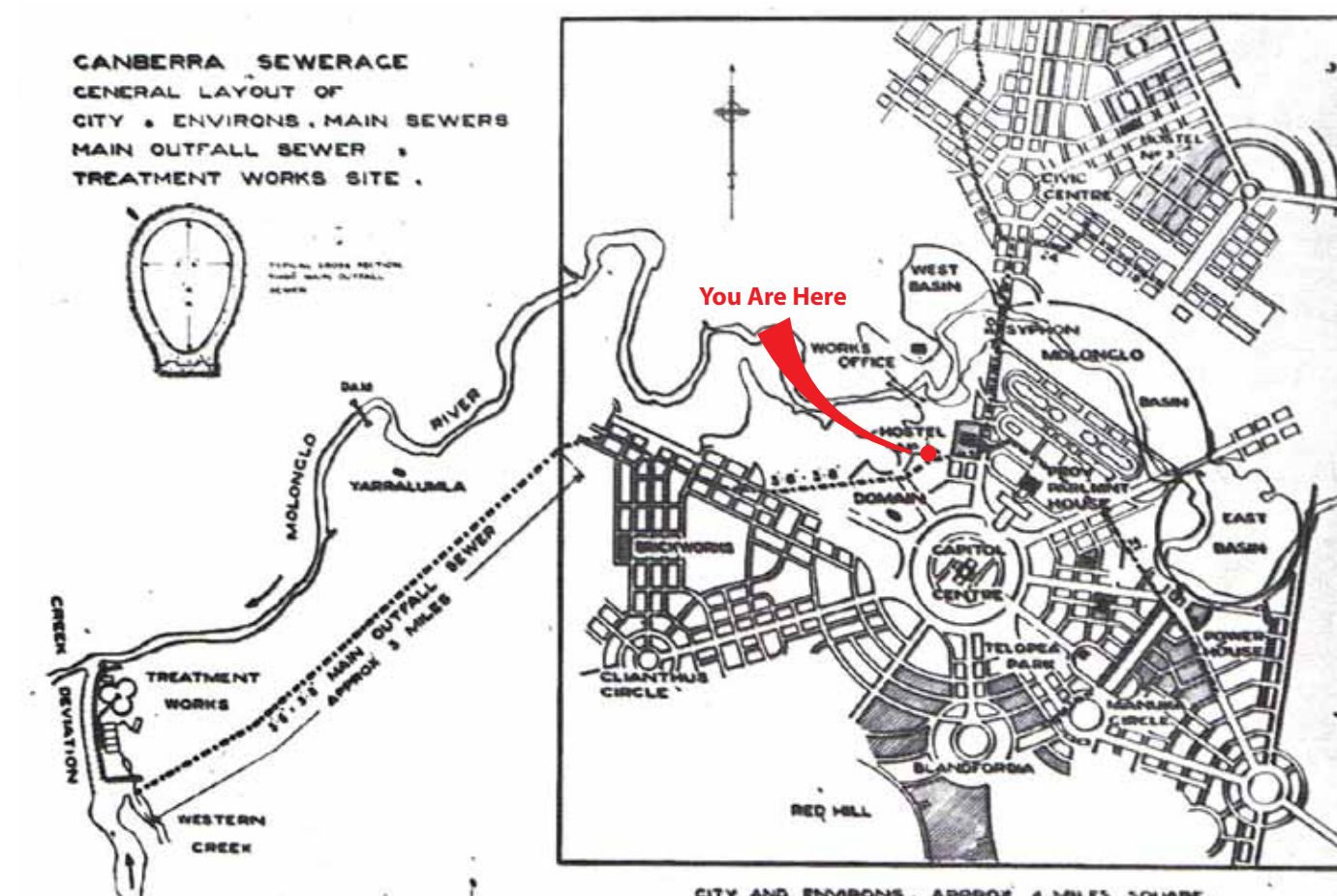


Equipment was high tech for its time

This photo of the construction site above the tunnel at Stirling Ridge shows the workmen in front of a headframe, hoisting gear and a metal cage which lowered miners down the shaft and raised excavated material to the surface. Kingston Power House supplied power to pneumatic drills, dewatering pumps and hoists.



Designed in 1914 when Canberra was still a sheep run



Living conditions were tough

Three work camps were established along the route – near the treatment works at Weston Creek, near Westbourne Woods and near here in part of Stirling Park, then known as Westlake. Hundreds of unmarried workmen lived in tents, while married men were sometimes accommodated in timber and galvanised iron huts. Neither tents nor huts would have provided much protection from Canberra's winter frosts.



Why we value it

Unassuming as it may seem, the main outfall sewer is an important part of our heritage. With roads, water supply and electricity, it is a key element of the original engineering infrastructure that enabled the building of the national capital and the transfer of Federal Parliament to Canberra. After more than 85 years it still performs its original function, safeguarding public health while Canberra's population has grown from 5,000 to more than 350,000. Canberra's Main Outfall Sewer was listed on the ACT Heritage Register in August 2011.



There is evidence above ground if you know where to look

Three original brick ventilator shafts exist along the route – on Stirling Ridge, near the decommissioned incinerator at the Royal Canberra Golf Club and at Weston Creek. These vents serve to prevent the build-up of gases and condensation that may damage the tunnel lining.

Sewer Vent No 3 at Stirling Ridge is 200 metres west of the intersection of Empire Circuit and Forster Crescent in Yarralumla. Sewer Camp No 3, established in 1923, is nearby in part of the area identified as Westlake.

The only above-ground section of the sewer can be seen where it crosses Yarralumla Creek near the Yarralumla Woolshed, some 600 metres off the Cotter Road.

Miners from the goldfields

Hundreds of miners and others workers carried out the excavation using pneumatic drills, explosives and hand tools. Excavated material was hoisted up in buckets and later transferred in horse-drawn drays for use in road making.

